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REMARKS

The Office Action issued April 8, 2008, has been carefully considered and the amendments and these remarks are responsive thereto. Claims 1-26 are pending in this application. Claims 1-3, 5, 9-14, 16 and 18-26 have been amended.

The Examiner in his Office Action rejects claims 1-4, 9-15 and 20-22 under 35 USC 102(b) as being anticipated by Nyhart et al. (5553137). The Examiner further rejects claims 5, 7-8, 16, 18-19 and 23-26 under 35 USC 103 as being unpatentable over Nyhart et al. (5,553,137) (hereinafter, Nyhart) as applied to claims 1 and 12. The Examiner rejects claims 6 and 17 under 35 USC 103 as being unpatentable over Nyhart as applied to claims 1 and 12 and further in view of applicant's admitted prior art (spec). The Examiner states "Applicant's admitted prior art discloses well known adaptive filters used to perform echo cancelling. The digital system inherently comprises means to delay all signal paths so as to synchronize the signals (to give 'real time' bidirectional communication.) (spec. pages 1 and 2). It would have been obvious to one of ordinary skill in the art at the time of this application to implement well known echo canceller features like a filter and delay means for the purpose of implementing the disclosed canceller."

The "admitted prior art" at pages 1 and 2 of the specification comprises a reference to adaptive filters used to perform echo cancelling. Indeed, an "adaptive filter" is described at page 1, lines 15-23, within the context that "the stored coefficients (of the adaptive filter) will be invalid or possibly worse than starting from a zero coefficient point." On page 2, it is stated: "Another approach involves reducing the local speaker volume when a local user is speaking into the microphone so as to reduce the canceling requirements of the adaptive filter." Thus, the admitted prior art on which the Examiner relies teaches away from a problematical adaptive filter.

Consequently, the Examiner's use of so-called admitted prior art is respectfully traversed as teaching anything other than what is stated in the specification. The Examiner must provide some citation to a reference which teaches what the Examiner alleges the prior art describes beyond how the admitted prior art is discussed at pages 1 and 2 of the specification, for example, the Examiner states at Page 4, paragraph 3: "The digital system inherently comprises means to

delay all signal paths so as to synchronize the signals. . ." which is not within the admitted prior art.

Applicants now discuss further allegations made by the Examiner regarding Nyhart. Nyhart allegedly "discloses . . . 'non-training' audio" (see paragraph 2 of the Office Action) according to the BACKGROUND, "Col 1 lines 21-40" re claims 1, 2, 12, 13 and 21. The Examiner states that the non-training audio may be "audio" re claims 3, 10, 11, 14 and 22. Further claims 9 and 20 are also discussed as "inherently" comprising features with no specific reference to any support in Nyhart.

There is a discussion in the Nyhart BACKGROUND of using "sidetone" which is the intentional combination of microphone pick-up to be heard by the near end caller or background noise which can result in the following: "an increased chance that the near end user will begin speaking before convergence. This in turn results in the near end user initially hearing his sidetone as the canceler converges. If the noise level is increased to a level higher than background noise, the far end user may hear the added noise for the duration of the training of the canceler." Thus, the approaches taken in Nyhart's BACKGROUND have problems that remain unsolved and teach away from applicant's claims.

At page 4 of the Office Action, still paragraph 2, and with respect to claims 7, 8, 18 and 19, the Examiner states, without any support from Nyhart, that "it would have been obvious to utilize training signals that matched the spectral (including sampling rate) characteristics of the data for which the echo canceller was to be used so as to train the echo canceller properly." Also, without support from Nyhart, the Examiner states "it would have been obvious to balance and manage the processor resources in a given system as necessary to perform the disclosed functions of communicating and echo cancelling." Applicants respectfully traverse all such unsupported statements as improper use of hindsight. Claims 7, 8, 18 and 19 speak for themselves and recite features not taught or suggested by any applied prior art or admitted art.

As introduced in the Nyhart ABSTRACT, Nyhart may show and suggest training "on noise generated by the echo canceller (124) during inter digit dialing." In particular, at col. 3, ll. 11-28, the DSP 124 generates low level white noise in a pseudo random (PN) sequence onto the two wire phone line 126 during inter digit dialing with the result: "The echo canceller 124 is thus trained during the inter digit dialing time before two way communication between the near end and far end users is established." This is not a disclosure or suggestion of applicant's invention.

Applicants' claims as amended clearly recite distinctions and features that one of ordinary creativity or one using common sense (see *KSR v. Teleflex guidelines re "obviousness"*) in view of Nyhart or the admitted prior art would not obtain without the use of improper hindsight reconstruction. Moreover, Nyhart and the admitted prior art teach away from the recited first and second, higher sampling rates as they fail to disclose any sampling rate at all.

Claim 1 has been amended to specifically recite "at least one of a conferencing application and a telephony application having a first sampling rate" and "sound comprising program audio at a second sampling rate, said second sampling rate being higher than said first sampling rate." Dependent claim 3 particularly recites "wherein the sound comprising program audio of the second sampling rate of the non-training audio application corresponds to one of a streaming audio, a Moving Picture Experts Group Layer-3 Audio (MP3) playback" and so on. Nyhart discloses a PN sequence for training. The Examiner has failed to set forth either a case of anticipation by Nyhart or one of obviousness allegedly in view of admitted prior art, none of which discloses these features as recited.

Claim 10 has been amended to recite a different embodiment – one "utilizing sound comprising audio that corresponds to a non-training audio application to train the acoustic echo canceller, wherein the sound that corresponds to the non-training audio application is a notification of an event unrelated to training of the acoustic echo canceller and specially designed audio signal or sequence, the specially designed audio signal or sequence including frequencies necessary to train the acoustic echo canceller and comprises one of a specially designed audio signal and a sequence, the specially designed audio signal or sequence including frequencies necessary to train the acoustic echo canceller." The prior art and admitted art fail to show or suggest these features. Again, Nyhart discloses an inter-digit PN noise sequence. Claim 21 has been similarly amended and distinguishes over the applied art.

Claim 23 has been further amended to recite "having a first sampling rate" and a "non-training audio application at a second sampling rate, said second sampling rate being higher than said first sampling rate" not taught by the prior art along with other features of the claim discussing the USB and IEEE 1394 interface between a computer and an echo canceller, not shown or suggested by the prior art.

Again, at best, Nyhart and the admitted prior art together describe PN sequence noise generation during inter-digit dialing and a problematical adaptive filter of the prior art. Claims 1-26 as amended contain features not shown or suggested by the applied or admitted prior art.

Applicants respectfully request reconsideration of the rejection of claims 1-26 as presently amended to further clarify their features and look forward to prompt allowance of the application. Should the Examiner have any questions on this request, the Examiner is urged to contact the undersigned attorney of record at the telephone number and address given.

Respectfully submitted,
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